



Release Notes

hp StorageWorks Sun Solaris Kit for Enterprise Virtual Array

Product Version: 3.0d

Fourth Edition (May 2004)

Part Number: AV-RUH7D-TE

This document contains the most recent product information about the HP StorageWorks Sun Solaris Kit v3.0d used for integrating host servers with the StorageWorks Enterprise Virtual Array (VCS version 3.014).

For the latest version of the Sun Solaris Release Notes and other documentation, access the HP storage web site at <http://www.hp.com/country/us/eng/prodserv/storage.html>.



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About this document

This section describes the content reflected in this document, including:

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Release Notes information

These release notes cover the following major topics:

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- [Avoiding problem situations](#), page 8
- [Enterprise Storage System notes](#), page 9
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Intended audience

This document is intended to assist customers who purchased the StorageWorks Enterprise Virtual Array and the associated StorageWorks Operating System kits. Other associated software packages are:

- StorageWorks Virtual Controller Software Package v3.014 for Dual HSV Controllers
- StorageWorks Snapshot for Virtual Controller Software v3.014 for Dual HSV Controllers

This document is also intended for use by HP Customer Service personnel responsible for installing and maintaining designated devices associated with this storage system.

Conventions

The following conventions are used throughout this document:

- Unless otherwise specified, all references to VCS v3.014 refer to the software package (kit) and documentation version level. These software packages and documentation support VCS v3.014.
- *The System Software for Enterprise Virtual Array* is the storage system software that contains Virtual Controller Software (VCS), Environmental Monitoring Unit (EMU) firmware, programmable component images, diagnostics, and message files. This storage system software is usually represented by a four-digit number, for example v3.014.
- Unless otherwise specified, all references to an HSV110 controller or an HSV110 controller pair should be interpreted as the HSV110 or HSV100 controller or controller pair.
- Unless otherwise specified, all references to the Enterprise Storage System or storage system should be interpreted as the EVA5000 or the EVA3000.
- Unless otherwise specified, all references to rack should be interpreted as the 9000-Series Enterprise Storage System Rack.
- Unless otherwise specified, all licensing references to host ID should be interpreted as the storage system World Wide Name (WWN).
- Unless otherwise specified, all references to the management appliance should be interpreted as the HP StorageWorks Management Appliance.
- Unless otherwise specified, all references to a single instance of a management agent should be interpreted as the HP StorageWorks Command View EVA.
- The term Fabric means Fibre Channel Switched (FC-SW) connectivity.

New features

This section briefly describes new features and changes that are supported by the version 3.0d release of the Platform Kit together with the array controller running VCS version 3.014.

New features for version 3.0d

The following are major enhancements included in the v3.0d release of the Platform Kit:

Enterprise Virtual Array storage system

This document contains the most recent product information about the Enterprise Virtual Array. An Enterprise Virtual Array storage system consists of the following:

- One pair of HSV110 controllers.
- An array of physical disk drives that the controller pair controls. The disk drives are located in drive enclosures that house the support systems for the disk drives.
- Associated physical, electrical, and environmental systems.
- Command View EVA, which is the graphical interface to the storage system. Command View EVA software resides on the Management Appliance and is accessed through a browser.
- Management Appliance, switches, and cabling.
- At least one host attached through the fabric.

Enterprise Virtual Array system software

HP StorageWorks Virtual Controller Software (VCS) v3.014 provides storage software capability for the HSV110 Array Controller and is provided in the VCS v3.014 software kit.

Multiple storage system types

The extended interoperability of the heterogeneous SAN allows you to mix several types of HP StorageWorks storage systems. For more information about configuration rules, refer to the *HP StorageWorks SAN Design Reference Guide* at <http://h18000.www1.hp.com/products/storageworks/san/documentation.html>

Enterprise Virtual Array documentation

The Enterprise Virtual Array Catalog of Associated Documentation is included on the Technical Documentation page. You can display a comprehensive list of Enterprise Virtual Array documentation as well as associated product documentation that may be required to operate your storage system. To access the Technical Documentation page, go to <http://h18006.www1.hp.com/products/storageworks/enterprise/documentation.html>

Supported configurations

Refer to the Enterprise Virtual Array Quick Specs for supported configurations. The *HP StorageWorks SAN Design Reference Guide* is a detailed guide for SAN configurations and is available at <http://h18004.www1.hp.com/products/storageworks/san/documentation.html>

Supported operating systems

The Enterprise Virtual Array storage system is compatible with the following operating systems:

- Tru64 UNIX
- Windows NT/Windows 2000/Windows Server 2003 (32- and 64-bit)
- OpenVMS
- Sun Solaris
- HP-UX
- IBM AIX
- Linux
- Novell NetWare

Table 1 lists the operating system's specifications, which are compatible with the Enterprise Virtual Array.

Note: Table 1 contains current minimum level operating system specifications at the time of the Enterprise Virtual Array v3.014 release. Some component versions may change due to revision. For the latest information, go to:

<http://h18006.www1.hp.com/storage/index.html>

Table 1: Operating system specifications

Platform	OS version	Clustering	FCA (HBA)	Adapter	Adapter driver
SUN4U and SunFire Series	2.6, 7, 8, 9	SunCluster 2.2 and Veritas Cluster 3.5	SWSA4-PC 32 bit PCI	3.0.3	2.5.9.03
			SWSA4-SC 64 bit Sbus	13.3.7	2.5.9.03
			FCA2257P PCI 2Gb	FCode 1.18.5	4.11
			FCA2257S Sbus 1Gb	FCode 1.18.3	4.11
			¹ FCA2257C cPCI 1Gb	FCode 1.18.5	4.11

1. FCA2257C cPCI 1-Gb adapter is supported on Solaris 8 and Solaris 9.

Required patches

This release of this Solution Software Kit has been qualified with Sun Solaris patches installed. Patch details are found in Table 2.

Note: Do not neglect the required patches. Your system will not function properly without them.

Table 2: Required patches

Solaris version	Patch number	Patch description
2.6	106226-01 105181-31 106125-08 105375-18 105356-10 105357-04 106429-02 105210-38	format kernel patchadd Dynamic Reconfiguration Dynamic Reconfiguration Dynamic Reconfiguration kma/mm libc
2.7	106541-16 107544-03	kernel fsck
2.7 (UE10000 only)	107450-04	gethostbyaddr
2.8	108528-15 109793-07 110912-02 111293-04 110383-02 108827-10 111310-01 109279-18 109904-05 109742-04 109906-06 112396-02 108987-09 111111-03	kernel su driver cfgadm libdevinfo libnvpair libthread libdhcpgent mipagent mpathd multipathing ifconfig fgrep patchadd nawk
2.8 (UE10000 only)	110794-02 111049-02	Dynamic Reconfiguration cvcd
2.9	112233-03 112834-02 113277-05	kernel scsi sd/ssd

Switch support

Note: This Fibre Channel Platform Kit supports the Fibre Channel switches and firmware versions listed in the *HP StorageWorks SAN Design Reference Guide* at <http://h18000.www1.hp.com/products/storageworks/san/documentation.html>. HP recommends that you do not mix switch firmware versions in your SAN. It is considered best practice to uniformly upgrade all switches in the SAN.

Multiple path support

Sun Solaris with EVA storage requires the installation of StorageWorks Secure Path on each host to achieve high availability multiple path capability. Secure Path is licensed on a per-host basis. Each Sun Solaris host requires Secure Path for Sun Solaris. Refer to the HP StorageWorks Enterprise Virtual Array 5000 specifications page at the following Web site for Secure Path versions:

<http://h18006.www1.hp.com/products/storageworks/enterprise/specifications.html>

Single path support configurations

Sun Solaris servers with a single FCA supports single path mode.

Note: Single path mode should not be used in mission critical environments. To configure Sun Solaris in single path mode, you must use the *HSG80 Solution Software Version 8.7A for Sun Solaris* solution kit.

Operating constraints

Any operating constraints specific to the Enterprise Virtual Array hardware and Command View EVA can be found in their respective release notes.

Failover/failback

There are specific failback preference settings for the HSV controllers that are operating system specific (refer to the Enterprise Virtual Array hardware release notes for details).

Avoiding problem situations

The following sections list problems that may arise during platform kit operation and how to avoid those problems.

Using config.sh to install an HSV110

When an HSV110 is installed on a system with an HSG80 using *config.sh* from the *Fcraid* manager, some paths to the storage may not be seen. Before installing Secure Path, run *devfsadm* to detect all configured paths, then install Secure Path. After you run *spconfig*, your system will be configured correctly.

Command View EVA

Information about avoiding problem situations specific to Command View EVA can be found in the Command View EVA release notes.

Enterprise Virtual Array version 3.014 hardware

Information about avoiding problem situations pertaining to Enterprise Virtual Array hardware can be found in the hardware release notes in your VCS kit.

Secure Path version

The Enterprise Virtual Array with VCS 3.014 should not be operated with a previous version of Secure Path. Refer to the HP StorageWorks Enterprise Virtual Array 5000 specifications page to ensure that you have the current version of Secure Path for your operating system. The HP StorageWorks Enterprise Virtual Array 5000 specifications page can be accessed at the following web site:

<http://h18006.www1.hp.com/products/storageworks/enterprise/specifications.html>

Codeload usage

When a maximum configured system is running at maximum load, codeload functionality cannot be used effectively due to Secure Path timing constraints. The system may time out before codeload is completed. Because of this behavior, VCS upgrade should be done during off peak usage.

Avoiding problem situations with the SSSU

Changing comments on a disk enclosure

You cannot use the SSSU to change comments on a disk enclosure. To avoid this situation, use Command View EVA to change comments on a disk enclosure. If you try to change a disk enclosure comment in the SSSU, the following error message appears:

Error: Invalid Operation

Changing the name of a disk enclosure

Changing the name of a disk enclosure is not supported with the SSSU or with Command View EVA. If you try to change a disk enclosure name in the SSSU, the following error message appears:

Error: Invalid Operation

Enterprise Storage System notes

Cable requirements

When an Enterprise Virtual Array is connected to a 1Gb switch an SC-to-LC cable is required for host connectivity. [Table 3](#) and [Table 4](#) provide listings of available cables.

Table 3: LC-SC cables

Length	Description	HP part number
2.0 m ± 40 mm	CA ASSY, LC-SC, Optical 2M	187891-002
5.0 m ± 80 mm	CA ASSY, LC-SC, Optical 5M	187891-005
15.0 m ± 150 mm	CA ASSY, LC-SC, Optical 15M	187891-015
30.0 m ± 300 mm	CA-ASSY, LC-SC, Optical 30M	187891-030
50.0 m ± 500 mm	CA-ASSY, LC-SC, Optical 50M	187891-050

Table 4: LC-LC cables

Length	Description	HP part number
2.0 m ± 40 mm	2-meter LC-LC Multi-Mode Fibre Cable	221692-B21
5.0 m ± 80 mm	5-meter LC-LC Multi-Mode Fibre Cable	221692-B22
15.0 m ± 150 mm	15-meter LC-LC Multi-Mode Fibre Cable	221692-B23
30.0 m ± 300 mm	30-meter LC-LC Multi-Mode Fibre Cable	221692-B26
50.0 m ± 500 mm	50-meter LC-LC Multi-Mode Fibre Cable	221692-B27

Storage System Scripting Utility for Enterprise Virtual Array

Refer to the *Command View EVA Release Notes* prior to using the Storage System Scripting Utility (SSSU), as SSSU communicates directly with the Command View EVA.